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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,483	11/12/2003	Forrest B. FencI	S002-P02005US	7587
33356	7590	04/04/2006	EXAMINER	
SoCAL IP LAW GROUP LLP 310 N. WESTLAKE BLVD. STE 120 WESTLAKE VILLAGE, CA 91362			MCKANE, ELIZABETH L	
			ART UNIT	PAPER NUMBER
			1744	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/706,483	FENCL ET AL.	
	Examiner	Art Unit	
	Leigh McKane	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32, 42, 43, 45, 55, 56, 58 and 61-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-32 is/are allowed.
- 6) ☒ Claim(s) 42, 43, 45, 55, 56, 58, 61 and 63-67 is/are rejected.
- 7) ☒ Claim(s) 62, 68, 69 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

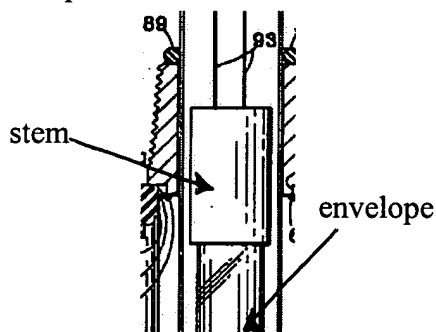
Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 42 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurtz et al. (U.S. Patent No. 5,660,719) in view of Block (*Disinfection, Sterilization, and Preservation*, 4th edition).

Kurtz et al. teaches a germicidal system resistant to environmental exposure wherein the system includes a conventional germicidal tube 20, a power supply 32 receiving power from an external source (col.5, lines 3-11) and providing power to the tube 20, a fixture 10 comprising a base (mounting means) 50 including an opening 62 through which the envelope of the tube 20 is passed. The system further includes fixture walls 39,48,50 defining an interior space 14 of the fixture. A tube holder 84,85, attached to fixture wall 50 holds and supports the tube 20 and includes an electrical connector 93 which engages at least one electrode in the stem of the tube 20 when the tube holder 84,85 engages the stem. See Figure 5. Although Figure 5 of Kurtz et al depicts a tube having an envelope and stem, there is no disclosure that the germicidal tube includes a gas enclosed by the envelope and stem.



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Block discloses that the “most practical method of generating UV radiation is by passage of electric discharge through low-pressure mercury vapor enclosed in special glass tubes, known commercially as germicidal lamps.” See page 555, first paragraph under “Germicidal Lamps”. It is deemed obvious to one of ordinary skill in the art to use a gas (mercury vapor) enclosed by the envelope and stem of Kurtz et al, as this is “the most practical method of generating UV radiation.”

3. Claims 43, 45, 56, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brickley (U.S. Patent No. 5,902,552) in view of Haidinger et al. (U.S. 5,505,904) and Block.

Brickley teaches a germicidal system including a UVC germicidal tube comprising an envelope 24 and a stem 22, a power supply 18 adapted to receive power from an external source and provide power to the germicidal tube, a fixture 12 (mounting means) comprising a base 13 adapted for mounting on an external surface of a wall 11, including an opening through which the envelope 24 is passed. Fixture walls 14,15,16 are coupled to the base 13 and define an interior space of the fixture. A tube holder 30, when screwed into place is attached to fixture wall 16 and holds/supports the germicidal tube. See Figure 3. Fixture wall 39 is coupled to fixture walls 48 by a hinge 56, forming a “clamshell” design. See Figure 4. The Examiner submits that the combination of cover 15 and walls 14 would have made the housing 12 resistant to at least dust. See col.4, lines 60-63. Brickley is silent with respect to the germicidal tube including a gas enclosed by the envelope and stem. Brickley is further silent as to the tube being able to withstand skin-effect cooling in an air flow of between 200 cfm and 600 cfm at between 30° F and 65° F.

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Block discloses that the “most practical method of generating UV radiation is by passage of electric discharge through low-pressure mercury vapor enclosed in special glass tubes, known commercially as germicidal lamps.” See page 555, first paragraph under “Germicidal Lamps”. It is deemed obvious to one of ordinary skill in the art to use a gas (mercury vapor) enclosed by the envelope and stem of Kurtz et al, as this is “the most practical method of generating UV radiation.”

Haidinger et al. discloses an UV lamp for installation within an air duct. The UVC lamp of Haidinger et al. is disclosed to operate efficiently when the air temperature is in the range of 60° to 80° F. The air flow is 230-280 cfm with one blower and 450-550 cfm for two blowers. See col.5, lines 32-36 and lines 56-59. It would have been obvious to one of ordinary skill in the art to use the UV lamp of Haidinger et al. in the air treatment system of Brickley because Haidinger et al. discloses that the UV lamps are effective in inactivating 99.52% of a wide range of bacteria. See col.1, lines 60-67.

4. Claims 61 and 63-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brickley in view of Haidinger et al. and Kurtz et al. (US 5,660,719).

With respect to claims 61, 63, 64, 66, and 67, Brickley teaches a germicidal system including a UVC germicidal tube comprising an envelope **24** and a stem **22**, a power supply **18** adapted to receive power from an external source and provide power to the germicidal tube, a fixture **12** (mounting means) comprising a base **13** adapted for mounting on an external surface of a wall **11**, including an opening through which the envelope **24** is passed. Fixture walls **14,15,16** are coupled to the base **13** and define an interior space of the fixture. A tube holder **30**, when screwed into place is attached to fixture wall **16** and holds/supports the germicidal tube. See Figure 3. Fixture wall **39** is

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coupled to fixture walls **48** by a hinge **56**, forming a “clamshell” design. See Figure 4. The fixture is “separated” from the wall by removing screws **66**. Brickley is silent as to the tube being able to withstand skin-effect cooling in an air flow of between 200 cfm and 600 cfm at between 30° F and 65° F, UV having an intensity of at least $10 \mu\text{W}/\text{cm}^2$, and to a means for sealing the fixture against a wall.

Haidinger et al. discloses an UV lamp for installation within an air duct. The UVC lamp of Haidinger et al. is disclosed to operate efficiently when the air temperature is in the range of 60° to 80° F. The air flow is 230-280 cfm with one blower and 450-550 cfm for two blowers. See col.5, lines 32-36 and lines 56-59. The radiation intensity is $142 \mu\text{W}/\text{cm}^2$. It would have been obvious to one of ordinary skill in the art to use the UV lamp of Haidinger et al. in the air treatment system of Brickley because Haidinger et al. discloses that the UV lamps are effective in inactivating 99.52% of a wide range of bacteria. See col.1, lines 60-67.

With respect to sealing the fixture against a wall, Brickley does not teach a means for sealing the fixture against a wall to prevent environmental conditions from entering the fixture. However, Brickley does disclose that the fixture **12** is mounted flush against the duct wall (col.4, lines 58-59) to prevent dust from entering the fixture. Regardless, Kurtz et al. discloses a means for sealing a fixture, including a seal **58** which provides a waterproof seal for a fixture for mounting UV tubes. See col.6, lines 3-25. Since Kurtz et al. teaches that the sealed enclosure provides “a water-resistant atmosphere for the electrical means therein...thereby offering a dry environment for the enclosed electrical means.” See col.2, lines 33-38. As Brickley also recognizes that moisture is detrimental

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to the UV lamps (col.4, lines 19-21), it would have been obvious to modify the fixture of Brickley to include sealing means in order to prevent the entry of moisture therein.

As to claim 65, although Brickley is silent with respect to the weight of the lamp, size is not ordinarily a matter of invention and thus is not patentably significant. See In re Yount, 36 CCPA (Patents) 775, 174 F.2d 317, 80 USPQ 141; In re Rose, 105 USPQ 237 (CCPA 1955).

Allowable Subject Matter

5. Claims 1-32 are allowed.

6. The following is an examiner's statement of reasons for allowance: The combination of Kurtz et al with Block or Wiesmann fails to teach or suggest: a) the combination of cover, base, and tube holder as set forth in claims 1 and 22, wherein the base includes means for tube installation and means for sealing on a lower surface to a wall; d) tube having a flanged stem; or e) an air handling or HVAC system employing the germicidal lamp, as Kurtz et al is disclosed to be used in a liquid environment.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Claims 62, 68, and 69 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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8. The following is a statement of reasons for the indication of allowable subject matter: With respect to claim 62, although Haidinger et al. teaches air flow up to 550 cfm, the lamp loses efficiency when the temperature deviates from the 60-80 °F range. Thus, one would not have expected the UVC output to peak when the air temperature is 55 °F. As to claim 68, the seals disclosed by Kurtz et al. in the combination with Brickley are not disclosed to be capable of withstanding an air pressure of at least 15 or 30 inches water gauge.

Response to Arguments

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh McKane whose telephone number is 571-272-1275. The examiner can normally be reached on Monday-Thursday (5:30 am-2:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leigh McKane
Primary Examiner
Art Unit 1744

elm
3 April 2006